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MEDICAL UNIVERSITY OF PLEVEN

FACULTY OF MEDICINE

DEPARTMENT OF ANATOMY, HISTOLOGY, CYTOLOGY AND BIOLOGY

2019/2020 academic year

PROGRAMME

OF

HUMAN ANATOMY

FOR MEDICAL STUDENTS

Разработил:	Одобрил:	Утвърдена:	
Доц. д-р Стефан Трифонов, ДМ Ръководител катедра /фамилия, длъжност/	Проф. д-р А.Аспарухов, дмн Декан ФМ /фамилия, длъжност/	На Факултетен съвет	Екземпляр № 05
07.09.2019 г..... /дата, подпис/2019 г..... /дата, подпис/ /дата/	Валиден от: 11.09.19

I – III semester

Lectures - **90** hours and exercises - **225** hours

Credit points: 16

Academic teaching staff :

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Thematic plan of Practical exercises of osteology and syndesmology I semester		
1.	Parts of the Skeleton. Bones of vertebral column.	3
2.	Bones of the chest. Bones of the shoulder girdle.	3
3.	Bones of the upper limb.	3
4.	Pelvic bones and bones of the lower limb.	3
5.	Skull: os occipitale, os sphenoidale, os frontale.	3
6.	Skull: os parietale, os ethmoidale, os temporale.	3
7.	Facial bones.	3
8.	Skull – overview.	3
9.	SEMINAR – osteology. Test and practical exam.	3
10.	Joints of the vertebral column.	3
11.	Joints of the chest.	3
12.	Joints of the upper limb.	3
13.	Pelvic joints.	3
14.	Joints of the lower limb.	3
15.	SEMINAR – syndesmology. Test and practical exam.	3
	Total	45

№	Thematic plan of lectures course of splanhnologia and angiologia III semester	hours
1.	Digestive system I: General overview, oral cavity, teeth, tongue, major salivary glands.	2
2.	Digestive system II: Pharynx, oesophagus, stomach.	2
3.	Digestive system III: Small and large intestine	2
4.	Digestive system IV: Liver, gall bladder, extrahepatic biliary ducts, exocrine pancreas.	2
5.	Respiratory system I: General overview, external nose, nasal cavity, paranasal sinuses.	2
6.	Respiratory system II: Larynx, trachea.	2
7.	Respiratory system III: Bronchi, lungs, pleura.	2
8.	Cardiovascular system I: Heart –macro- and microscopic structure.	2
9.	Cardiovascular system II: Heart – coronary system, innervation, pericardium.	2
10.	Cardiovascular system III: Blood vessels – general features, arterial and venous wall structure.	2
11.	Hemopoetic organs – bone marrow, thymus, lymph nodes, spleen, palatine tonsils. Lymphatic vessels	2
12.	Urinary system I: General overview. Kidney.	2
13.	Urinary system II: Excretory ducts – ureter, urinary bladder, urethra.	2
14.	Male reproductive system.	2
15.	Female reproductive system.	2
16.	Topographic anatomy of the neck.	2
17.	Mediastinum.	2
18.	Peritoneum.	2
19.	Anterior abdominal wall. Inguinal canal. Retroperitoneal space	2
20.	Pelvis. Perineum.	2
21.	Endocrine system I: Morpho-functional organization. Hypophysis, pineal body, thyroid gland, parathyroid glands	2
22.	Endocrine system II: Suprarenal gland, paraganglia, endocrine pancreas and gastro-entero-pancreatic system.	3
	Total	45

№	Thematic plan of practical exercises of splanhnologia III semester	hours
1.	Digestive system I: Oral cavity, salivary glands, pharynx, oesophagus.	3
2.	Digestive system II: Stomach, small and large intestine.	3
3.	Digestive system III: Liver, gall bladder, pancreas.	3
4.	Colloquium: Digestive system.	
5.	Respiratory system I: External nose, paranasal sinuses, larynx.	3
6.	Respiratory system II: Trachea, bronchi, lung.	3
7.	Cardiovascular system.	3
8.	Hemopoetic organs.	
9.	Colloquium: Cardiovascular, respiratory system and hemopoetic organs.	3
10.	Urinary system.	3
11.	Male reproductive system.	3
12.	Female reproductive system.	3
13.	Endocrine glands.	3
14.	Colloquium: Urinary, female and male reproductive systems and endocrine glands.	3
15.	Nervous system.	3
	Total	45

№	Thematic plan of Dissection course with topographic anatomy. Muscles, vessels and nerves of the trunk – back, neck, chest, abdomen, pelvis III semester	hours
1	Back: topographic regions of the back, superficial nerves and muscles	5
2.	Back: muscles of the medial and lateral rows, trigonum suboccipitale, the vertebral canal and its contents	5
3.	Neck: regions, pl. cervicalis, superficial veins, fasciae Chest: Preparation of the Mammary gland Abdomen: Inguinal region.	5
4.	Neck: anterior regions Chest: proper muscle, vessels and nerves Abdomen: vagina of rectus abdominal muscle	5
5.	Neck: Trigonum caroticum, Trigonum submandibulare. Chest: fossa axillaris Abdomen: Opening of the Abdominal cavity and studying the visceral situs.	5
6.	Neck: lateral region Chest: anterior mediastinum Abdomen: peritoneal formations in superior part of abdominal cavity	5
7.	Neck: Trigonum colli laterale, muscle of neck Chest: middle mediastinum Abdomen: Topographic anatomy of the Peritoneal cavity	5
8.	Neck: branches of subclavian a. and v. Chest: superior mediastinum Abdomen: Topographic anatomy of the Peritoneal cavity	5
9.	Neck: the deep fascia of neck, cervical parts of truncus sympathicus Chest: the posterior mediastinum Abdomen: the retroperitoneal space	5
10.	Neck: the deep muscle of neck Chest: the posterior mediastinum Abdomen: pl. lumbalis, abdominal aorta	5
11.	Neck: Taking out the cervical viscera of one cadaver Chest: the posterior wall of chest Abdomen: the posterior wall of the peritoneal cavity	5
12.	Abdomen: of the vessels and nerves in the pelvic minor	5
13.	Abdomen: peritoneal and subperitoneal spaces in pelvic minor.	5
14.	Perineum: muscles and fasciae	5
15.	Colloquium- trunk	5
	Total	75

Thematic plan of lecture course of nervous system and sensory organs		
II semester		
1.	Development of the nervous system – phylogenesis and ontogenesis. Principles of organization. Spinal cord.	2
2.	Spinal cord – internal structure of the gray and white matter.	2
3.	Spinal nerves formation.	2
4.	General overview of the brain stem, development, anomalies. Brain stem. Medulla oblongata.	2
5.	Pons.	2
6.	Cerebellum.	2
7.	Midbrain.	2
8.	Diencephalon I: Thalamus, epithalamus, metathalamus.	2
9.	Diencephalon II: Hypothalamus, subthalamus.	2
10.	Telencephalon – general overview, development, anomalies. Cerebral hemispheria.	2
11.	Telencephalon – localization of the functions. Rhinencephalon. Limbic system.	2
12.	Basal ganglia. White matter of the hemisphere - internal capsule. Lateral ventricle. Meninges. Blood supply of brain.	2
13.	Functional systems in C N S. Major Sensory Pathways (ascending tracts).	2
14.	Functional systems in C N S . Major Motor Pathways (descending tracts).	2
15.	Cranial nerves – I-VII.	2
16.	Cranial nerves VIII-XII.	2
17.	Autonomic nervous system.	2
18.	Ganglia and plexuses of ANS.	2
19.	Sense organs - classification. Organ of the visus.	2
20.	Auditory and vestibular organ.	2
21.	Olfactory and gustatory organs	2
22.	Skin.	3
Total		45

Thematic plan of facultative anatomy lecture course		hours
II semester		
1.	Topographic anatomy of the head	2
2.	Topographic anatomy of the head	2
3.	Topographic anatomy of the neck	2
4.	Topographic anatomy of the pelvis	2
5.	Topographic anatomy of the pelvis	2
6.	Topographic anatomy of the upper limb	2
7.	Topographic anatomy of the lower limb	2
Total		14

	Thematic plan of practical exercise of dissections of upper and lower limbs, brain and sensory organs II semester	hours
1.	The Upper Limb: Regions, superficial veins, nerves The Lower Limb: Regions, superficial veins, nerves	3
2.	The Upper Limb: Regio axillaris The Lower Limb: Regio glutea	2
3.	The Upper Limb: Regio brachii anterior The Lower Limb: Regio femoris anterior	3
4.	The Upper Limb: Regio brachii posterior The Lower Limb: Regio femoralis anterior	2
5.	The Upper Limb: Regio cubiti The Lower Limb: Regio femoris posterior	3
6.	The Upper Limb: Regio antebrachii anterior The Lower Limb: Regio poplitea	2
7.	The Upper Limb: Regio antebrachii posterior The Lower Limb: Regio cruris anterior	3
8.	The Upper Limb: Regio antebrachii posterior The Lower Limb: Regio cruris posterior	2
9.	The Upper Limb: Regio carpi The Lower Limb: Regio cruris posterior	3
10.	The Upper Limb: Dorsum manus The Lower Limb: Dorsum pedis	2
11.	The Upper Limb: Palma manus The Lower Limb: Planta pedis	3
12.	Studding the other limb	2
13.	Studding the other limb	3
14.	Studding the other limb	2
15.	Studding the other limb	3
16.	Colloquium on upper and lower limbs Test and practical exam	2
	Total	40

	Thematic plan of practical exercise in dissections of brain and sensory organs II semester	hours
17.	Skull and telencephalon	3
18.	Telencephalon	2
19.	Telencephalon	3
20.	Diencephalon	2
21.	Mesencephalon and cerebellum	3
22.	Pons, medulla oblongata	2
23.	Spinal cord	3
24.	Colloquium - brain Test and practical exam	2
	Total	20

	Thematic plan of facultative practical exercise II semester	hours
1.	Topographic anatomy of the head. Mimic and masticatory muscles	3
2.	Topographic anatomy of the orbit. II, III, IV and VI cranial nerves	2
3.	Eye and visual sensory system	3
4.	Fossa pterygopalatina. V and VII cranial nerves	2
5.	Branches of the external carotid artery. IX, X, XI and XII cranial nerves	3
6.	Ear and hearing and equilibratory sensory system	3
	Total	16

Thesis of practical exercises of osteology and syndesmology

I semester

1. Parts of the Skeleton. Bones of vertebral column: vertebra, sacrum, coccygial bone.
2. Bones of the chest: ribs, sternal bone. Bones of the shoulder girdle: clavicle, scapul. Rö – anatomy of the chest.
3. Bones of the upper limb: humerus, ulna, radius, bones of the hand. Rö – anatomy of the upper limb.
4. Pelvic bones and bones of the lower limb: os coxae, femur, patella, tibia, fibula, bones of the foot. Rö – anatomy of the lower limb.
5. Skull: os occipitale, os sphenoidale, os frontale
6. Skull: os parietale, os etmoidale, os temporale
7. Facial bones: maxilla, os zygomaticum, os nasale, os lacrimale, os palatinum, vomer, concha nasalis inferior, mandibula, os hyoideum.
8. Skull – overview: calvaria, basis cranii interna, basis cranii externa, norma lateralis, orbita, cavum nasi.
9. **SEMINAR – OSTEOLOGY**
10. Joints of the vertebral column. 11. Joints of the chest: costovertebral joints, sternocostal joints, sternoclavicular joint, acromioclavicular joint.
12. Joints of the upper limb. Rö – anatomy of the upper limb joints
13. Pelvic joints. Pelvis as a hole – pelvic diameters. Sacroiliac joint.
14. Joints of the lower limb. Rö – anatomy of the lower limb joints
15. **SEMINAR- ARTROLOGY**

Thesis of
Lecture course of splanhnology and angiology
III semester

1. **Digestive system – I:** general overview and development. Macroscopic and microscopic structure of the oral cavity, teeth, tongue, major salivary glands. Clinical accent: tonsillitis, parotitis.
2. **Digestive system – II:** Macroscopic and microscopic structure of the pharynx, oesophagus, stomach. Clinical accent: ulcus ventriculi.
3. **Digestive system – III:** Macroscopic and microscopic structure of the small and large intestine. Clinical accent: appendicitis.
4. **Digestive system – IV:** Macroscopic and microscopic structure of the liver, gall bladder, extrahepatic biliary ducts, exocrine pancreas. Clinical accent: hepatitis, cholelvtiasis.
5. **Respiratory system – I:** general overview and development. Macroscopic and microscopic structure of the external nose, nasal cavity, paranasal sinuses.
6. **Respiratory system – II:** Macroscopic and microscopic structure of the larynx, trachea.
7. **Respiratory system – III:** Macroscopic and microscopic structure of the bronchi, lungs, pleura. Clinical accent: the most widespread respiratory diseases.
8. **Cardiovascular system – I:** Macroscopic and microscopic structure of the heard
9. **Cardiovascular system – II:** heart – impulse- conductive system, coronary system, pericardium. Clinical accent: coronary disease and myocardial infarction.
10. **Cardiovascular system – III:** blood vessels – general features. Arterial, venous and capillary wall structure. Blood circulation, fetal circulation. Clinical accent: arterial hypertony.
11. **Hemopoetic organs** – Macroscopic and microscopic structure of the bone marrow, thymus, lymph nodes, spleen, palatine tonsils. Structure of the lymphatic vessels wall. Lymphatic vessels, regional groups of lymph nodes. Immunity. Clinical accent: AIDS-syndrom.
12. **Urinary system I:** general overview. Macroscopic and microscopic structure of the kidney. Clinical accent: dialysis.
13. **Urinary system II:** Macroscopic and microscopic structure of the excretory ducts – ureter, urinary bladder, urethra. Clinical accent: the most widespread nephric diseases.
14. **Male reproductive system:** Macroscopic and microscopic structure of the testis, epididymis, ductus deferens, prostate glande, seminal vesicles, penis. Clinical accent: male sterility.

- 15. Female reproductive system:** Macroscopic and microscopic structure of the ovary, uterine tubes, uterus, vagina, external genitals. Clinical accent: Ca colli uteri, Ca mammae, control of pregnancy.
- 16. Topographic anatomy of the neck** – regions, borders, characteristics of the skin and subcutaneous fat tissue, surface anatomy, fasciae, muscle groups, vessels, nerves.
- 17. Mediastinum** - regions, topograph anatomy relationship of organs, vessels, nerves.
- 18. Peritoneum** – regions, topograph anatomy relationship of organs, vessels, nerves.
- 19. Anterior abdominal wall** - regions, borders, characteristics of the skin and subcutaneous fat tissue, surface anatomy, fasciae, muscle groups, vessels, nerves. Inguinal canal – walls, openings and contents. **Retroperitoneal space** - topograph anatomy relationship of organs, vessels, nerves.
- 20. Pelvis** - regions, topograph anatomy relationship of organs, vessels, nerves. **Perineum.**
- 21. Endocrine system – I:** morpho-functional organization. Macroscopic and microscopic structure of the hypophysis, pineal body, thyroid gland, parathyroid glands. Clinical accent: growth hormone, diseases of the growth.
- 22. Endocrine system – II:** Macroscopic and microscopic structure of the suprarenal gland, paraganglia, endocrine pancreas and gastro-entero-pancreatic system. Clinical accent: suprarenal pathology, stress, diabetes mellitus

**Thesis of
Practical exercises of splanhnologia
III semester**

1. Digestive system – I:

A/ macroscopic preparations: oral cavity, salivary glands, pharynx, oesophagus

B/ microscopic preparations:

1. lip – HE
2. tongue – HE
3. parotid gland – HE
4. submandibular gland – HE
5. sublingual gland - HE
6. oesophagus - HE

2. Digestive system – II:

A/ macroscopic preparations: stomach, small and large intestine

B/ microscopic preparations:

1. stomach – fundus, HE
2. stomach – pylor, HE
3. small intestine – HE
4. small intestine – Mucicarmin
5. duodenum – HE
6. large intestine – HE
7. appendix – HE

3. Digestive system – III:

A/ macroscopic preparations: liver, gall bladder, pancreas

B/ microscopic preparations:

1. liver – HE
2. liver – Azan
3. liver – Van Gison
4. pancreas – HE
5. gall bladder – HE

1. Colloquium – Digestive system

5. Respiratory system – I:

A/ macroscopic preparations: external nose, paranasal sinuses, larynx

B/ microscopic preparations:

1. lateral wall of the nasal cavity – HE
2. epiglottis – HE
3. larynx – HE

6. Respiratory system – II:

A/ macroscopic preparations: trachea, bronchi, lung

B/ microscopic preparations:

1. trachea – HE
2. lung - HE
3. lung – Azan

4. lung – (from fetus) - HE
5. lung – (from fetus) – Azan

7. Cardiovascular system:

A/ macroscopic preparation: heart

B/ microscopic preparations:

1. heart- HE
2. heart – impulse conducting tissue - HE
3. aorta – HE
4. artery and vein – HE

8. Hemopoetic organs:

A/ macroscopic preparation – spleen

B/ microscopic preparations:

1. spleen – HE
2. spleen – Azan
3. thymus – HE
4. lymph node – HE
5. palatine tonsil – HE

1. **Colloquium** – cardiovascular, respiratory system and hemopoetic organs

10. Urinary system:

A/ macroscopic preparation – kidneys, ureter, urinary bladder

B/ microscopic preparations:

1. kidney – HE
2. ureter – HE
3. urinary bladder - HE

11. Male reproductive system:

A/ macroscopic preparation – testis, epididymis, ductus deferens, prostate gland, penis

B/ microscopic preparations:

1. testis – HE
2. testis – Azan
3. ductus deferens – HE
4. prostate gland - HE
5. penis – HE

12. Female reproductive system:

A/ macroscopic preparation – ovary, uterine tube, uterus, vagina, external genitals

B/ microscopic preparations:

1. ovary – HE
2. ovary – Azan
3. uterine tube - HE
4. uterus - HE
5. vagina – HE
6. mammary gland – HE
7. mammary gland, lactating – HE

13. Endocrine glands:

A/ macroscopic preparations: hypophysis, pineal body, thyroid gland, suprarenal gland, pancreas.

B/ microscopic preparations:

1. hypophysis – HE
2. thyroid gland – HE
3. suprarenal gland – HE
4. suprarenal gland – Azan
5. pancreas – PAF - α - и β -cells
6. pineal gland – HE

14. Colloquium – urinary, female and male reproductive systems and endocrine glands

15. Nervous system I:

A/ macroscopic preparations: cerebrum, cerebellum, medulla spinalis, meninges

B/ microscopic preparation:

1. cerebrum - HE
2. cerebrum– AgNO₃ impregnation
3. cerebellum – HE
4. cerebellum – AgNO₃ impregnation
5. medulla spinalis - HE
6. medulla spinalis – AgNO₃ impregnation
7. ganglion spinale – HE
8. peripheral nerve – AgNO₃
9. peripheral nerve – Azan
10. eye – HE
11. skin (Vater-Pacini corpuscle) - HE

Thesis of
Dissection course with topographic anatomy
Muscles, vessels and nerves of the trunk – back, neck, chest, abdomen,
pelvis
III semester

1. Back: Outlining the topographic regions of the back: regio Vertebralis, r. Sacralis, r. Scapularis, r. Infrascapularis, r. Lumbalis, r. Nuchae. Taking down the skin keeping the subcutaneous adipose tissue. Uncovering and preparation of the rami mediales et laterales of the dorsal ramuses, Major et Minor occipital nervi, Third occipital nerve and nn. Clunium superiores.

Preparation of Trapezoid muscle and Latissimus dorsi muscle keeping their supplying nerves.

2. Back: Dissection of some muscles of the medial row: Spinales, Semispinales, Multifidus, and Rotatores muscles. Sectioning.

of m. Semispinalis capitis. Preparation of Suboccipital nerve, Deep cervical artery, Vertebral artery, Recti capitis posteriores major et minor muscles, Obliqui capitis superiores et inferiores muscles.

Studying of the Suboccipital trigone.

The Vertebral canal and its contents. Opening of the Vertebral canal in one cadaver and demonstration of Cavum epidurale, Dura mater, Cavum subdurale, Arachnoidea, Cavum subarachnoidale, Pia mater, Medulla spinalis, and ganglia spinales.

Preparation of a few pairs of Spinal nerves and belonging Spinal ganglia. Taking out the Medulla spinalis from vertebral canal.

3. Neck: Outlining the topographic regions of the neck, chest and abdomen. Making skin sections and taking down the skin keeping the subcutaneous adipose tissue.

Cleaning of the Platysma. Preparation of Supraclavicular nerves. Raising Platysma. Fascia and fascial rooms (Spaces) in the neck. Preparation of Occipital minor nerve, Auricular magnus nerve, Transversal colli nerve, r. Colli of Facial nerve, and Ansa cervicalis superficialis. Sectioning of the superficial neck veins: v. Jugularis externa and v. Jugularis ant. Entirely presentation of the Superficial lamina of the cervical fascia.

Chest: Topography of the mammary gland. Uncovering rami cutanei anteriores et laterales.

Abdomen: Outlining of the projections of the abdominal viscera.

Uncovering rami cutanei anteriores et laterales abdominales. Preparation of the External oblique abdominal muscle.

4. Neck: Opening the fascial sheath of Submandibular gland and Sternocleidomastoid muscle. Outlining the boundaries of Submandibular trigone, Carotic trigone and Lateral cervical trigone. Preparation of the Carotic trigone keeping the Sternocleidomastoid muscle: Ansa cervicalis, Hypoglossal nerve, Common carotic artery, Internal jugular vein, Vagal nerve.

Chest: Preparation of the Mammary gland: blood supply, innervation and lymph drainage. Boundaries of the Axillar fossa.

Abdomen: Inguinal region. Dissectioning of superficial inguinal ring, Spermatic cord, Iliioinguinal nerve, Linea alba, Umbilical ring.

5. Neck: Preparation of the branches of External carotic artery and Superior laryngeal nerve. Cutting Sternocleidomastoid muscle. Dissectioning of the Submandibular trigone, Stylohyoid

muscle, Submandibular gland, Digastric muscle, Facial artery, Submental artery, and Mylohyoid nerve.

Chest: Cleaning of the surface of Pectoralis major muscle and identification of its parts. Sectioning of the Clavicular part and representing Clavipectoral trigone: Pectoral nerves and Thoracoacromial artery. Complete sectioning of the Pectoralis major muscle and pushing it laterally.

Abdomen: Sectioning of the External oblique abdominal muscle and preparation of the Internal oblique abdominal muscle

6. Neck: Outlining of the major neck vessels and nerves. Preparation of the Accessory nerve. Cutting anterior belly of Digastric muscle and Mylohyoid muscle. Dissection of Submandibular duct, Hypoglossal nerve, Lingual nerve and Submandibular ganglion.

Chest: Preparation of the Pectoralis minor muscle, Serratus anterior muscle, Thoracicus longus nerve, and Lateral thoracic artery. Sectioning of the Pectoralis minor muscle from the ribs. Studying the vessels and nerves into Axillar fossa.

Abdomen: Cleaning the surface of Transversus abdominal muscle keeping its nerve supply – Intercostal nerves and the rami of Lumbar plexus. Studying and sectioning the anterior layer of Rectus sheath. Cleaning and sectioning of Rectus muscle keeping its nerve supply.

7. Neck: Preparation of geniohyoid muscle, genioglossus muscle, hyoglossus muscle, and Lingual artery. Preparation of inferior sublingual, muscles keeping their innervation.

Chest: Preparation of intercostals muscles. Internal thoracic artery. Sectioning the medial part of the intercostals muscles keeping Parietal pleura. Opening the thorax via bilateral sectioning of I -V ribs. After that transversal sectioning through The manubrium and the body of the Sternum.

Abdomen: Opening of the Abdominal cavity and studying the visceral situs.

8. Neck: Preparation of Trigonum colli laterale. Presentation of Omohyoid muscle, a. Transversa colli, a. Cervicalis superficialis and a. Suprascapularis. Preparation of the trunc and branches of Vagal nerve and Cervical plexus.

Chest: Study of the Retrosternal space and the boundaries of the Anterior mediastinum. Preparation of the Pericardium and Pleura. Exarticulation of the Clavicle from the Sternum. Connection between the neck and the thorax. Preparation of Brachiocephalic veins, Superior vena cava, Aortic arch, Vagal nerve, and Phrenic nerve.

Abdomen: Topographic anatomy of the Peritoneal cavity: floors, bursae, sinuses, canals. Peritoneal specializations: Greater omentum, Lesser omentum, Mesentery. Preparation of the trunc and branches of the Superior mesenteric artery and the arterial loops in the mesentery.

9. Neck: Cleaning of the Prevertebral lamina of Cervical fascia. Preparation of the Sympatic trunc and Phrenic nerve.

Chest: Sectioning of the Pericardium. Taking out and preparation of the Heart.

Abdomen: Taking out and opening of the Jejunum and Ileum. Studying the Posterior wall of the Peritoneal cavity

10. Neck: Preparation of the branches of Subclavian artery, mm. Scaleni, and Brachial plexus. Sectioning of the Scalenus anterior muscle from the I rib. Costocervical trunc.

Chest: Sectioning the posterior layer of the Pericardium. Preparation of the Posterior mediastinum: Oesophagus, Bronchi, Vagal nerves. Sectioning of the Right principal bronchus and Pulmonal artery. Taking out and preparation of the Right pulmo.

Preparing in situ the hilus of the Left pulmo.

Abdomen: Preparation of the Inferior mesenteric artery. Taking out and preparation of the Colon. Presentation of the Lesser omentum and Epiploic foramen. Dissection of the Common bile duct, Portal vein and Hepatic artery.

11. Neck: Finishing and review of the Regio cervicalis lateralis. Taking out the cervical viscera of one cadaver.

Chest: Taking out of the Left pulmo. Dissection of the posterior thoracic wall: Thoracic aorta, Posterior intercostal arteries and veins, Azygos and Hemiazygos veins, Thoracic duct. Finishing the preparation of the Intercostal arteries and veins. Topography of the Intercostal spaces. Sympatic trunk. Splanchnic nerves. Overview of the Posterior thoracic wall.

Abdomen: Preparation of the Celiac trunk: Left gastric artery, Splenic artery, Hepatic artery, Right gastric artery. Taking out and dissection of the Stomach, Duodenum, Pancreas, and Spleen. Preparation of the Inferior vena cava. Taking out and preparation of the Liver.

12. Abdomen: Presentation of the Abdominal aorta and its rami.

Celiac ganglia and Splanchnic nerves. Retroperitoneal space. Preparation of the Kidneys and Suprarenal glands. Preparation of the Testicular (Ovaric) arteries and veins. Preparation of the Lumbar plexus and its branches via partial removal of the right Psoas major muscle. Cutting of the Renal artery and vein. Preparation and liberation of the kidney together with the Ureter. Longitudinally sectioning of one kidney and demonstration of the pelvis renalis.

13. Abdomen: Preparation of the vessels and nerves in the Pelvis minor: Common iliac artery and vein, external iliac artery and vein, internal iliac artery and vein and their branches, femoral nerve and obturator nerve.

14. Perineum: Turning the cadavar transversally on the dissection tables. Outlining of the regio perinealis, analis, and urogenitalis. Taking down of the skin keeping the subcutaneous adipose tissue. Preparation of the pelvic muscles: Sphincter ani externus, Levator ani, Transversus perinei superficialis and their fasciae. Cleaning of the Ischiorectal fossa. Preparation of the vessels and nerves in the left side: Pudental nerve, Internal pudental artery and its branches – Anal artery and nerves, Perineal artery and nerves, Scrotal (Labial) artery and nerves. Taking out and dissection of the pelvic viscera with the kidney. Female sex organs: Ovary, Uterine tube, Uterus, Vagina. Male sex organs: Testis, Spermatic cord, Seminal vesicles, Penis.

15. COLLOQUIUM: Trunk

Knowledge, ability and skills that students should overcome after the II semester
After the course of Splanchnology, angiology and the dissections of the trunk
the students should know:

1. The borders of more important topographic regions of the corpse.
2. Content of each topographic integrity.
3. Recognition of main arteries and their important branches.
4. Recognition of important superficial and deep veins and their important tributaries.
5. Recognition of main groups lymph nodes and lymph vessels.
6. Recognition of important and bigger muscles.
7. Recognition of the viscera and their details.
8. Outlining the projections of lungs.
9. Outlining the projections of pleura.
10. Outlining the projections of heart.
11. Projections of the heart valves /punctum auscultatorium/.
12. Outlining the projections of abdominal viscera.
13. Knowing the layers of thoracic wall and the pleural puncture.
14. Knowing the layers of thoracic wall and the pericardial puncture.
15. Dissection of heart.
16. Dissection of the main arteries.
17. Dissection of the important spinal nerves.
18. Dissection of inguinal canal.
19. Dissection of kidney.
20. Knowing the place of cavum Douglasi puncture.

**Thesis of
Lecture course of nervous system and sensory organs**

II semester

1. **Development of the nervous system – phylogenesis and ontogenesis. Principles of organization. Spinal cord** – external features, envelopes and blood supply.
2. **Spinal cord – internal structure of the gray and white matter.** Ascending and descending nerve fiber tracts of the spinal cord. Reflex apparatus of the spinal cord.
3. **Spinal nerves formation.** Dorsal and ventral rami of the spinal nerves. Peripheral nerves and plexuses.
4. **General overview of the brain stem, development, anomalies. Brain stem. Medulla oblongata** – external features and internal structure.
5. **Pons** – external features and internal structure. Fourth ventricle.
6. **Cerebellum** – parts, external features. Microscopic structure of the cerebellar cortex. Efferent and afferent connections, deep cerebellar nuclei.
7. **Midbrain** – external features and internal structure.
8. **Diencephalon** – parts: thalamus, epithalamus, metathalamus. External features. Nuclei and fiber systems. Third ventricle.
9. **Diencephalon** – hypothalamus, subthalamus. External features. Nuclei and fiber systems. Neuroendocrine system. Reticular formation of the brain stem.
10. **Telencephalon** – general overview, development, anomalies. Cerebral hemispheres.. Sulci and gyri. Microscopic structure of the cerebral cortex. Systems of hemispheric nerve fiber- corpus callosum and commissures.
11. **Telencephalon** – localization of the functions. Processes of learning, spiking and memory. Cerebral asymmetry. Rhinencephalon. Limbic system. Noninvasive methods for investigation of the brain.
12. **Basal ganglia.** White matter of the hemisphere – internal capsule. Lateral ventricle.
13. **Functional systems in C N S . Major Sensory Pathways** (ascending tracts).
14. **Functional systems in C N S. Major Motor Pathways** (descending tracts). Meninges and cerebrospinal fluid. Cerebral blood supply.
15. **Cranial nerves – I-VII.** Nuclei, running, branches and regions of innervation.

16. **Cranial nerves VIII-XII.** Nuclei, running, branches and regions of innervation.
17. **Autonomic nervous system.** Parts of ANS- sympathetic and parasympathetic, structural features. Receptors and some drugs.
18. **Ganglia and plexuses of ANS.** Autonomic control of internal organs. Regulation of ANS.
19. **Sense organs - classification. Eye.** Visual sensory system.
20. **Auditory and vestibular organ.** Auditory sensory system. Vestibular sensory system.
21. **Olfactory and gustatory organs.** Olfactory sensory system, gustatory sensory system.
22. **Skin.** Sweat and sebaceous glands. Hairs and nails. Mammary gland. Types of cutaneous nerve endings.

**Thesis of
Facultative lecture course of topographic anatomy**

1. Topographic anatomy of the head. Regio frontoparietooccipitalis, regio temporalis, regio mastoidea, basis cranii, regio infratemporalis
2. Topographic anatomy of the head. Regio facialis lateralis, regio zygomatica, regio infraorbitalis, regio mentalis, regio buccalis, regio parotideonasseterica, regio orbitalis, regio nasalis, regio oralis
3. Topographic anatomy of the neck. Regio coli anterior, regio sternocleidomastoidea, regio coli lateralis
4. Topographic anatomy of the pelvis. Peritoneal and subperitoneal regions
5. Topographic anatomy of the pelvis. Topographic relations of organs, vessels and nerves
6. Topographic anatomy of the upper limb.
7. Topographic anatomy of the lower limb

Thesis of
Practical exercise of dissections of upper and lower limbs
II semester

1. The Upper Limb

By scrutiny palpation we show the important bone areas: acromion scapulae, processus coracoideus scapulae, epicondylus lateralis et epicondylus medialis humeri, processus styloideus radii.

Show the location and anatomical areas of the upper limbs: regio deltoidea, regio brachii anterior et posterior, regio cubiti anterior et posterior, regio antebrachii anterior et posterior, dorsum manus, palma manus. Skin dissection: 1. From acromion through epicondylus lat. humeri up to processus styloideus radii. 2. Cross – circular section on a level with m. deltoideus. 3. Cross – circular section in the regio antebrachii 5 cm distal from fossa cubiti. Remove the skin from the regio deltoidea and regio brachii while preserving the fatty hypodermic tissue. Make a dissection of the subcutaneous veins – v. cephalica, v. basilica et v. mediana cubiti. Then make a dissection of the subcutaneous nerves – nn. cutanei brachii et antebrachii mediales, laterales et posteriores. Find v. cephalica in sulcus bicipitalis brachii lateralis. Trace it out in sulcus deltoideopectoralis, where, a little farther it goes into v. axillaris. In the distal third of the brachium along sulcus bicipitalis brachii medialis make a dissection of a v. basilica before it goes into hiatus basilicus of fascia brachii, which is located between the middle and the distal third of the brachium. There are three different ways of joining v. cephalica to v. basilica in the fossa cubiti.

The Lower Limb

Show the location and anatomical areas of the lower limb: regio glutea, regio femoralis ant. et post., regio cruris ant. et post., regio calcanea, dorsum pedis, planta pedis.

Skin dissection : Remove the skin around the articulatio coxae and the hip while preserving the hypodermic tissue. Dissection of the subcutaneous nerves – nn. cutanei ant., rr. cutanei n. femoralis, n. cutaneus femoris lat., nn. clunii inferiores, n. cutaneus femoris post., n. saphenus, r. infrapatellaris, v. saphena magna.

2. The Upper Limb

Fascia deltoidea is located along the dorsal edge of m. deltoideus which comes out from n. axillaris. Its branches spread along fascia deltoidea. Dissection of the muscles around the articulatio humeri. Cut off m. deltoideus from the attachment points. Dissection of the n. axillaris, a. circumflexa humeri post. et ant. Fossa axillaris – walls. Location of principal neurovascular bundle. Find the plexus brachialis – fasciculi et trunci, and branches of a. axillaris. Work on foramen axillare med. et lat. and their contents. Detach m. supraspinatus from the scapula as well as n. et a. suprascapularis. Cut partially m. infraspinatus from scapula. Find the anastomoses of a. circumflexa scapulae and a. subscapularis.

The Lower Limb

Dissection of the muscles around the coxal joint and the branches of plexus lumbalis, plexus sacralis, a. iliaca ext, a. epigastrica inf., a. circumflexa ilium prof., lacuna musculorum et lacuna vasorum. Complete dissection of the a. iliaca int. and its branches: a. glutea sup., a. glutea inf., a. obturatoria, a. pudenda int., aa. sacrales lat., a. iliolumbalis.

3. The Upper Limb

Remove the fatty subcutaneous tissue of the brachium and the regio cubiti while preserving the subcutaneous veins and nerves. Show the fascia brachii, septa intermuscularia.

Find the muscles of the front group of the brachium. Dissection of the n. musculocutaneus, n. ulnaris and the branches of a. brachialis, a. profunda brachii, a. collateralis ulnaris sup. et inf.

The Lower Limb

Show the location and anatomical areas of regio glutea. After the skin incision, remove the thin deep fascia from m. gluteus maximus and cut across it. Separate the muscles around the articulatio coxae and find the vessels and nerves in foramen infrapiriforme. Find the n. cutaneus femoris post., n. gluteus inf., a. glutea inf., n. ischiadicus. Lift m. gluteus medius up from the pelvis bone and draw it aside towards trochanter major. Find the foramen suprapiriforme – a. glutea sup. et n. gluteus sup. Work on the anastomoses between the upper branch of a. glutea sup. and ramus ascendens of a. circumflexa femoris lat. Find the n. obturatorius and the medial group of muscles of the thigh: m. adductor brevis, longus et magnus, m. pectineus, canalis obturatorius – formation and contents: a. obturatoria, v. n. obturatorius and branches. Remove the fatty subcutaneous tissue of the thigh white preserving the subcutaneous nerves and veins. Show the fascia and tractus iliotibialis, in the regio femoris. Find the front group of femoral muscles – m. sartorius, m. quadriceps femoris. Show trigonum femorale, fossa ilipectinea and canalis femoralis. Find n. femoralis, a. et v. femoralis, and branches of a. profunda femoris: a. circumflexa femoris lat., a. circumflexa femoris med., aa. perforantes.

4. The Upper Limb

Find the muscles of the posterior group of the brachium. Cut the lateral head of m. triceps brachii to show the wall of canalis humeromuscularis. Find the branches of n. radialis and the branches of a. profunda brachii.

The Lower Limb

Find the muscles surrounding fossa poplitea as well as the vessels and nerves in it: a. poplitea and its branches, n. tibialis, n. peroneus communis. Make canalis adductorius and its walls and contents: a. femoralis, v. femoralis, n. saphenus, a. et v. genu descendens .

5. The Upper Limb

Find the muscles surrounding fossa cubiti as well as its vessels and nerves: a. brachialis, a. radialis, a. ulnaris and branches of n. medianus and n. radialis.

Skin section. Remove the skin of the forearm of both the front and the back side. Dissection of the subcutaneous nerves, v. cephalica, v. basilica, v. mediana anterbrachii, nn. cutanei anterbrachii lat., med. et post.

Cut the fascia antebrachii and dissect the front muscles of the forearm. Find the n. ulnaris, n. medianus, a. radialis, n. interosseus ant., a. interossea communis and their branches in the regio antebrachii.

The Lower limb

Skin sections. Remove the skin of the leg and the back of the foot while preserving the fatty subcutaneous nerves and veins: v. saphena magna, n. saphenus, n. peroneus superficialis, v. saphena parva, n. suralis together with their branches along dorsum pedis; n. cutaneus surae med. et lat.

6. The Upper Limb Dissection of the lateral muscle group of the forearm. Find the superficial branch of n. radialis. Cut the fascia and find the back group of muscles of the forearm. Showing the osteofibrous channels along the regio carpi post. Find the ramus profundus n. radialis, n. et a. interossea post. , a. interossea ant.

The Lower limb

Remove the fascia cruris. Retinaculum extensorum. Find the superficialis muscles of the back of the leg. Detach medial head of m. gastrocnemius. Dissection of the arcus tendineus m. solei. Detach m. soleus and move it aside of tibia making sure you do not harm the deep layer of the fascia cruris. Cut the deep layer of fascia cruris. Trace the neurovascular bundle up the malleolus med. Find the n. tibialis and a. tibialis post. and their branches. Canalis cruropopliteus.

8. The Upper Limb

Find the skin nerves on the back of the hand – the branches of n. radialis, n. ulnaris. Examine a. radialis. The anatomical “cigarette case”. Cut fascia dorsalis manus and find the tendons on the back of the hand. Open the osteofibrous channels of retinaculum extensorum. Representing the extensor tendons of the fingers while preserving the nerves.

The Lower Limb

Cut the fascia while preserving retinaculum mm. extensorum. Dissection of the anterior group of muscles of the leg, a. tibialis ant. and its branches, n. peroneus profundus. Find the lateral group of the muscles of the leg. Continue proximally until finding n. peroneus superficialis.

9. The Upper Limb

Skin dissection. Remove the skin and examine aponeurosis palmaris. Find the nn. and aa. digitales palmares communes, nn. and aa. digitales palmares proprii. Move aponeurosis palmaris aside. Examine closely a. ulnaris with acrus palmaris superficialis, n. medianus and n. ulnaris. Show the retinaculum flexorum and canalis carpi. Find the thumb and little finger muscles while preserving their innervations.

The Lower limb

Make a dissection of the skin nerves on the back of the foot: nn. cutanei dorsales mediales, intermedius et laterales and n. peroneus profundus. Cut fascia dorsalis pedis. Find the muscles on the back of the foot. Make a dissection of the skin nerves on the back of the foot: nn. cutanei dorsales mediales, intermedius et laterales and n. peroneus profundus.

10. The Upper Limb

Entering in the vaginae tendinum while preserving the vessels and nerves. Cut retinaculum flexorum, open canalis carpi and vaginae tendinum. Find the tendons of the flexor muscles, mm. lumbricales preserving their innervation.

The Lower limb

Cut fascia dorsalis pedis. Find the muscles on the back of the foot. Cut retinaculum mm. extensorum and show a. dorsalis pedis and n. peroneus prof. on the back of the foot. Find the m. extensor digitorum brevis and dorsal tendines of the toes while preserving the skin nerves. Branches of a. dorsalis pedis.

11. The Upper Limb

Show a. radialis and acrus palmaris profundus. After cutting m. interosseus dorsalis and m. adductor policis, show mm. interossei palmares and the branches of the arcus palmaris profundus.

The Lower limb

Skin dissection. Remove the skin from the planta pedis. Find the aponeurosis plantaris and the branches of n. plantaris lat. and aa. digitales plantares. Lift aponeurosis plantaris up towards calcaneus, show the vessels and nerves which goes proximal. Vaginae tendinum of the fingers. Dissect the muscles of planta pedis. Open the vaginae tendinum and move m. flexor digitorum brevis aside the calcaneus. Cut the tendon of m. flexor digitorum longus. Show and dissect the foot vessels and nerves. Find the tendon and cut m. quadratus plantae. Lift m. adductor hallucis up and show arcus plantaris, the deep branch of the n. plantaris lat. and mm. interossei.

12. Studding the other limb

13. Studding the other limb

14. Studding the other limb

15. Studding the other limb

16. COLLOQUIUM on upper and lower limbs

Thesis of
Practical exercise in dissections of brain and sensory organs
II semester

1. **Skull:** Study of the internal base of the skull, dura mater encephali, sinus durae mater, cranial nerves

2. **Telencephalon:** Demonstration of the leptomeninges, blood vessels and cranial nerves. Study of sulci and gyri on the upper and lower surface of the left hemisphere. Study of the parts of ventriculus lateralis dexter. Presentation of the system of nerve fibres /association, commissural and projection fibres/. Removing of the operculum frontale, parietale and temporale. Insula. Transverse section of the right hemisphere at the level of corpus callosum. Parts of corpus callosum. Study of sulci and gyri on the medial surface of the left hemisphere.

3. **Telencephalon:** Presentation of the forceps anterior and posterior, striae longitudinales, opening of ventriculus lateralis, cutting of truncus corporis callosi. Demonstration of the fornix. Median section through the fornix and opening the occipitale part of the right hemisphere.

4. **Diencephalon:** Structure. The median section is continued to corpora mammilaria. Oblique section below the right pulvinar thalami. Presentation of the walls of ventriculus tertius. Transverse section through the right hemisphere. Study of corpus striatum, capsula interna claustrum, rhinencephalon – parts.

5. **Mesencephalon:** Structure. Horizontal sections through the right half of the trunk. Nuclei, and ascending and descending tracts.

Cerebellum: External morphology of the cerebellum. Sagittal section through vermis cerebelli. Ventriculus IV. Removing of the right cerebelli hemisphere by cutting pedunculi cerebelli. Transverse sections through the right cerebelli hemisphere. Cerebelli nuclei. Sagittal section through truncus cerebri /mesencephalon, pons, medulla oblongata/.

6. **Pons and medulla oblongata:** Structure of white and gray matter, ventriculus IV. Ascending and descending pathways.

7. **Medulla spinalis:** pars, structure of white and gray matter. Ascending and descending pathways

8. **COLLOQUIUM** on brain

**Thesis of
Practical exercise
Facultative course**

1. Topographic anatomy of the head. Regio frontoparietooccipitalis, regio temporalis, regio mastoidea, basis cranii, regio infratemporalis, regio orbitalis, regio nasalis, regio oralis. Mimic and masticatory muscles.
2. Orbita – upper, middle and lower floor. III, IV and VI cranial nerves. Optic nerve.
3. Eye. Visual sensory system. External eye muscles. Ophthalmic artery
4. Regio facialis lateralis, regio zygomatica, regio infraorbitalis, regio mentalis, regio buccalis, regio parotideonasseterica. V and VII cranial nerves. Fossa pterygopalatina.
5. Branches of external carotic arteria. IX, X, XI and XII cranial nerves
6. Ear. Hearing and equilibril sensory system. VIII cranial nerve

	Credit points	%
1. Attendance the practical exercises	6.8	43
2. Attendance the lectures	2.6	16
3. Self preparation	2.8	17
4. Preparation for the seminar of osteology	0.25	1.5
5. Preparation for the seminar arthrology	0.25	1.5
6. Preparation for the seminar of digestive system	0.25	1.5
7. Preparation for the seminar of respiratory, cardiovascular systems and lymphatic organs	0.25	1.5
8. Preparation for the seminar of urinary, female, male and endocrine systems	0.25	1.5
9. Preparation for the seminar of dissections of trunk	0.25	1.5
10. Preparation for the seminar of dissections of upper and lower limbs	0.25	1.5
11. Preparation for the seminar of brain dissections	0.25	1.5
12 Preparation for the final exam	1.8	12
Common	16	100

SYNOPSIS

for the anatomy exam – second year medical students

I. BONES

The principle part of the osteology is being tested at the practical examination. In the description of the bones, knowledge is required about the insertion points of the muscles and the relations with blood vessels and nerves. For the joints, the joint elements and the mechanics of movements are considered. Knowledge is required about the Ro-anatomy of the bone and locomotor systems.

1. The bone as an organ - structure, development and growth of the bones.
2. Joints – types. Structure and mechanics.
3. Vertebral column. Connections between the vertebrae.
4. Thorax. Connections of the bony elements. The thorax as a whole.
5. Calvaria. Cranial suture
6. Internal surface of the cranial base.
7. External surface of the cranial base.
8. Lateral surface of the skull.
9. Orbit.
10. Bony skeleton of the nasal cavity.
11. Atlanto – occipital joint. Atlanto – axial joint.
12. Temporo-mandibular joint.
13. Joints of the shoulder girdle.
14. Shoulder joint.
15. Elbow joint. Connections of the bones of the forearm.
16. Wrist joints.
17. Carpal-metacarpal joints. Joints of the fingers.
18. Connections of the pelvis bones. Form and dimensions of the pelvis.
19. Hip joint.
20. Knee joint.
21. Connections of the leg bones. Ankle joint.
22. Talocalcaneonavicular joint.
23. Semi-mobile joints of the foot. Joints of the toes.

II. MUSCLES

Knowledge is required about muscle groups, their fascias, the insertion points of the individual muscles, their innervation and function.

24. Structure, subsidiary formations and mechanic of the muscles.
25. Muscles of facial expression.
26. Masticatory muscles.
27. Superficial muscles of the back.
28. Deep muscles of the back. Dorsal fasciae
29. Superficialis muscles of the neck. Neck fascia.
30. Deep muscles of the neck.
31. Muscles of the thoracic wall. Proper muscles of the thoracic wall.
32. Muscles of the shoulder girdle.
33. The diaphragm.
34. Abdominal wall muscles.

35. Inguinal canal.
36. Proper muscles of the shoulder girdle
37. Muscles of the arm. Arm fascia.
38. Muscles of the forearm -- anterior and lateral group.
39. Muscles of the forearm -- posterior group. Forearm fascia.
40. Muscles of the hand.
41. Muscles around the hip joint.
42. Muscles of the thigh. Thigh fascia.
43. Muscles of the leg - anterior and lateral group.
44. Muscles of the leg - posterior group. Leg fascia.
45. Muscles and fascias of the foot.

III. INTERNAL ORGANS

Knowledge is required about embryogenesis, structure, localization, skeletotopic and syntopic relations, microscopic anatomy, histo-physiology, blood supply, lymphatic, drainage and innervation.

46. Oral cavity. Hard and soft palate.
47. Tongue.
48. Isthmus faucium. Tonsils.
49. Principal salivary glands.
50. Pharynx.
51. Oesophagus.
52. Stomach.
53. Duodenum.
54. Small intestine.
55. Large intestine - caecum, appendix, colon.
56. Large intestine - rectum.
57. Liver
58. Intra- and extrahepatal biliary ducts. Gall bladder.
59. Exocrine pancreas
60. Peritoneum.
61. Respiratory system -- general review and growth.
62. External nose. Nasal cavity. Paranasal sinuses.
63. Larynx – cartilaginous skeleton. Principal structure
64. Larynx – skeletal and proper muscles. Laryngeal cavity.
65. Trachea. Bronchi.
66. Lungs.
67. Pleura. Pleural cavity.
68. Urinary system -- general review and growth.
69. Kidney.
70. Renal pelvis. Ureter. Urinary bladder.
71. Urethra in males and females.
72. Genitals - general review and growth.
73. Testis.
74. Epididymis. Seminal duct. Spermatic cord.
75. Seminal vesicles. Prostate. Bulbo-urethral gland.
76. Penis. Scrotum.
77. Ovary.
78. Uterine tube.

79. Uterus.
80. Vagina. External female genitals
81. Perineum. Muscles and fascias.
82. Mammary gland.

IV. ENDOCRINE SYSTEM

For each one of the glands with internal secretion, knowledge is required about the development, microscopic structure, cytophysiology, blood supply and innervation.

83. Pituitary gland.
84. Epiphysis.
85. Thyroid gland, parathyroid glands.
86. Suprarenal gland. Paraganglia.
87. Endocrine pancreas. Gastro-entero-pancreatic system.

V. VASCULAR SYSTEM

In blood vessel description, data need to be given about the localisation, ramifications (affluents) and the major collateral vessels. For the lymphatic system, knowledge is required about the regional lymph nodes and lymph drainage.

88. Heart. Development, topography and external features.
89. Heart ventricles. Heart valves.
90. Structure of the heart wall. Fibrous skeleton of the heart.
91. Pericardium. Pericardial cavity.
92. Blood supply and innervation of the heart. Impulse-conducting system.
93. Structure of the blood vessel wall. Arteries, veins, capillaries.
94. Vessels of the pulmonary circulation.
95. Aorta - general review.
96. External carotid artery.
97. Internal carotid artery.
98. Maxillary artery.
99. Subclavian artery.
100. Axillary and brachial arteries.
101. Radial and ulnar arteries.
102. Aortic arch. Thoracic aorta.
103. Abdominal aorta.
104. Celiac trunk. Superior and inferior mesenteric arteries.
105. Common iliac artery. External iliac artery. Femoral artery.
106. Internal iliac artery.
107. Popliteal artery. Arteries of the leg and foot.
108. System of the superior vena cava.
109. Veins of the thoracic wall.
110. System of the inferior vena cava.
111. Superficial and deep veins of the extremities.
112. System of portal vein. Porto-caval anastomoses, cava-caval anastomoses
113. Blood circulation in the fetus and its remnants.
114. Lymphatic system. General review. Structure of the lymphatic vessels wall. Major lymphatic vessels.
115. Lymph nodes. Thymus.
116. Spleen.

117. Bone marrow.
118. Lymphatic vessels and lymphatic nodes of the head and neck.
119. Lymphatic vessels and lymphatic nodes of the upper extremity.
120. Lymphatic vessels and lymphatic nodes of the lower extremity.
121. Lymphatic vessels and lymphatic nodes in the abdominal cavity and pelvis.

VI. NERVOUS SYSTEM AND ORGANS OF SENSE

In CNS parts description, data need to be given about the macroscopic and microscopic structure (cyto- and myeloarchitectonic). In peripheral nerves description knowledge is required about the nuclei (motor, sensor and autonomic), their distribution and their branches.

122. General review, phylogenesis and ontogenesis. Principal structure of the nervous system.
123. Spinal cord - form, position, envelopes and blood supply.
124. Grey matter of the spinal cord.
125. Funicules of the white matter of the spinal cord.
126. Medulla.
127. Pons.
128. Cerebellum - Microscopic structure of the cortex.
129. Cerebellum – fiber system and nuclei.
130. Fourth ventricle.
131. Midbrain.
132. Diencephalon – thalamus, epithalamus, metathalamus.
133. Diencephalon – subthalamus, hypothalamus.
134. Third ventricle.
135. Telencephalon. Sulci and gyri.
136. Telencephalon. Microscopic structure of the cerebral cortex.
137. Telencephalon. Localisation of the functions. Cerebral asymmetry.
138. Systems of fibres in the white matter of the telencephalon. Internal capsule.
139. Basal nuclei of the telencephalon.
140. Rhinencephalon. Limbic system
141. Corpus callosum. Commissures. Fornix
142. Lateral ventricle.
143. Functional systems (Pathways) in the CNS. Systems of common sensitivity – system for touch and pressure (exteroception).
144. System for temperature and pain.
145. System for touch and pressure connected with the trigeminal nerve.
146. System for deep sensation (proprioception).
147. Efferent motor systems. Pyramidal system. Oculomotor system
148. Efferent motor systems. Extrapyramidal system.
149. Meninges.
150. Circulation of the cerebro-spinal fluid. Cerebral cisternae.
151. Blood supply of the brain – cerebral and cerebellar arteries
152. Venous sinuses of the dura mater, cerebral veins.
153. Spinal nerves - formation. Spinal ganglia.
154. Posterior rami of the spinal nerves.
155. Cervical plexus.
156. Brachial plexus.
157. Ulnar nerve.
158. Median nerve.

159. Radial nerve.
160. Axillary nerve. Musculocutaneous nerve.
161. Review of the skin and muscles innervation of the upper extremity.
162. Intercostal nerves.
163. Lumbar plexus.
164. Sacral plexus. Sciatic nerve. Tibial nerve
165. Peroneal nerve
166. Review of the skin and muscles innervation of the lower extremity.
167. Cranial nerves: external ocular muscle nerves /III, IV, VI/
168. Cranial nerves: Trigeminal nerve /V/ - general review of its nuclei and branches.
169. Ophthalmic nerve.
170. Maxillary nerve.
171. Mandibular nerve.
172. Facial nerve.
173. Auditory portion of the VIII nerve. Auditory pathway
174. Vestibular portion of the VIII nerve. Vestibular pathway
175. Glossopharyngeal nerve.
176. Vagus nerve.
177. Accessory nerve. Hypoglossal nerve.
178. Autonomic nervous system. General review.
179. Sympathetic part of the autonomic nervous system.
180. Parasympathetic part of the autonomic nervous system.
181. Autonomic plexuses and ganglia in the region of the head and neck.
182. Autonomic plexuses and ganglia in the region of the thoracic and abdominal cavities.
183. Organ of olfaction. Olfactory pathway.
184. Organ of the taste. Gustatory pathway.
185. Organ of the vision - general review.
186. External tunic of the eyeball.
187. Middle tunic of the eyeball.
188. Retina. Visual pathway.
189. Central part of the eyeball, ocular chambers.
190. Subsidiary organs of the eye. Blood supply of the eye.
191. External ear. Middle ear.
192. Internal ear - osseous labyrinth.
193. Internal ear - membranaceous labyrinth.
194. Skin – structure. Hairs and nails.
195. Skin receptors of the common sensation.

VII. TOPOGRAPHIC ANATOMY

In the description of the topographo-anatomical regions, the borders, localisation of the anatomical objects in them, their relationships and projections on the skeleton are consecutively discussed..

196. Basis cranii - anterior, middle and posterior cerebral fossae.
197. Regio temporalis.
198. Regio fronto-parieto-occipitalis.
199. Face - topographo-anatomical specificities.
200. Orbit – upper floor.
201. Orbit – middle and lower floor.
202. Regio infraorbitalis, regio zygomatica

203. Regio nasalis, regio oralis
204. Regio buccalis, regio parotideomasseterica.
205. Regio suprahyoidea, regio infrahyoidea, trigonum submandibulare.
206. Regio sternocleidomastoidea.
207. Trigonum caroticum.
208. Regio colli lateralis.
209. Regio infraclavicularis.
210. Regio axillaris.
211. Thoracic wall.
212. Anterior mediastinum.
213. Posterior mediastinum.
214. Regio dorsi. Spinal canal and its content.
215. Topographo-anatomical regions of the abdomen.
216. Anterior abdominal wall, inguinal canal.
217. Upper part of the abdominal wall.
218. Lower part of the abdominal wall.
219. Regio lumbalis, retroperitoneal space.
220. Peritoneal space of the male and female.
221. Regio anoperinealis and subperitoneal space in the male.
222. Regio anoperinealis and subperitoneal space in the female.
223. Regio deltoidea.
224. Regio brachii anterior.
225. Regio brachii posterior.
226. Regio cubiti.
227. Regio antebrachii anterior.
228. Regio antebrachii posterior.
229. Dorsum manus.
230. Palma manus.
231. Regio femoris anterior.
232. Regio femoris posterior.
233. Regio genus.
234. Regio cruris.
235. Dorsum pedis.
236. Planta pedis.

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